# South Carolina
# Commission on Higher Education



CAAL
4/05/12
Agenda Item 7

April 5, 2012

**MEMORANDUM**

**To:** Dr. Bettie Rose Horne, Chair, and Members, Committee on Academic Affairs and Licensing

**From:** Dr. T. Michael Raley, Director of Academic Affairs and Licensing

**Consideration of Awards for *Improving Teacher Quality* Competitive Grants Program, FY 2012-13(New and Continuing)**

## Background

Since 1984, the Commission on Higher Education has been responsible for administering federal funds under a Title II program of *The Elementary and Secondary Education Act (ESEA)*. In 2001, the federal legislation was re-authorized under the *No Child Left Behind Act (NCLB)*. Title II, Part A of NCLB, entitled *Preparing, Training, and Recruiting High-Quality Teachers and Principals,* authorizes the Commission to conduct a competitive awards program to provide support to increase student academic achievement through strategies such as improving teacher and principal quality and increasing the number of highly qualified teachers in the classroom and highly qualified principals and assistant principals in schools.

The Commission is authorized to provide a competitive grants program to partnerships comprised, at a minimum, of schools of education and arts and sciences from higher education institutions along with one or more high-need local education agencies (LEAs) which are defined as school districts. Additional partners may be included as defined by the legislation.

The higher education program is a competitive grants program with the primary focus on professional development; however, there are several recent significant changes under the legislation. Foremost is that the Commission will only award grants to eligible partnerships that are comprised of, at a minimum, (1) a private or public institution of higher education and the division of the institution that prepares teachers and principals; (2) a school of arts and sciences; and (3) a high-need local education agency (defined in the legislation as a school

district classified as high-needs based upon U.S. census data). Additional partners may also be included. A second change is that there is no longer a focus only on science and mathematics. Instead, nine core academic areas (English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography) could be addressed in proposals. A third change allowed the provided professional development to focus on in-service and pre-service teachers, as well as principals and paraprofessionals (in the core academic areas that the teachers teach). Finally, the emphasis of the proposed projects was required to be on low-performing districts and schools, and the Commission was charged with ensuring an equitable geographic distribution of grants.

The priority areas that proposals were required to address were determined by the federal legislation and are identified in the State's Consolidated State Plan submitted to the U.S. Department of Education by the South Carolina Department of Education.

Under federal regulations, 2.5 percent of the *Improving Teacher Quality Higher Education Grants* (ITQ) funds for the state is allocated to the Commission to be used for the competitive grants program. The Commission is expected to receive $805,355 with which to make Federal FY 2012-13 awards. This year, given the reduced amount of funding available, proposed new projects could request up to $90,000 in funds per year (In previous years, available funding allowed up to $150,000 per year.) The Commission sought proposals that will have maximum impact and encourage multi-year programs to assure positive results on the target audience. The number of grants awarded was determined primarily by the quality of the proposals submitted and the size of the negotiated final budgets in comparison to the total funds available. Equitable geographic distribution of districts served was considered in making awards, assuming proposals are deemed to be of high quality. No proposal was considered unless it met the minimum federal definition of a partnership (as stated in the *ITQ Guidelines* and in the *Federal Title II Non-Regulatory Guidance*).

**Review Panel Recommendations**

A review panel consisting of K-12 and higher education representatives (**Attachment 1**) met on February 3, 2012, to review and rate the five proposals submitted for consideration. Four fundable projects were identified by the FY 2012-13 review panel (**Attachment 2**) because of their excellence and geographic representation. The funding amount for the new awards for FY 2012-13 is $387,500 contingent upon availability of funds from the federal government.

## New Proposals Recommended for Funding for FY 2012-13

| Project Title | Institution | Districts Served | Subject | Proposed Number of Teachers |
|---|---|---|---|---|
| *Integrating Reading Skills in Inquiry-Based Science Instruction (IRIS)* | Charleston Southern | Charleston County | Science | 24 |
| *Improving Middle Grades Teacher Quality through the Clemson Mathematics Institute and Video Club* | Clemson University | Abbeville, Greenwood 51 | Math | 25 |
| *South Carolina High Energy Mathematics Circle (SCHEMaTC)* | Columbia College | Fairfield | Math | 25 |
| *Expanding Nature-Based Inquiry Opportunities in Elementary Science Education* | USC-Columbia | Clarendon One, Richland 1 | Science | 30 |

The four new proposals recommended for funding will allow four new school districts (Abbeville, Clarendon One, Fairfield, and Greenwood 51) to receive professional development in mathematics or science content.

In addition to the four new projects, four continuing projects were submitted and approved by the CHE staff for funding in FY 2012-13 (**Attachment 3**). These projects were reviewed by staff for their success in meeting the stated goals and objectives in their original proposals and for appropriate activities as identified by the federal guidelines. The total amount requested for continuing proposals in their second through fourth years of funding for awards made under the FY 2009-10 through 2012-13 grant competitions total $349,600 contingent upon availability of funds from the federal government. The total funding amount requested for all approved projects is $737,100.

A map (**Attachment 4**) is attached which shows the high-needs LEAs that are eligible to participate in the Improving Teacher Quality Grant programs and also identifies those that are current partners as well as those that will become partners with the FY 2012-13 projects.

The abstracts describing the proposed projects recommended for funding are included in **Attachment 5**.

### Recommendation

In keeping with and following the Committee's authority to make the new and continuing awards on behalf of the Commission for the *Improving Teacher Quality* grant program the staff recommends that the Committee on Academic Affairs and Licensing approve on behalf of the Commission the review panel's funding recommendations as shown in **Attachments 2 and 3**. Funding will be contingent upon the project directors' revisions of the proposed projects in accord with the review panel's recommended changes and availability of federal funds.

**Attachment 1**

**ITQ Review Panel**
**2012-13**
**February 3, 2012**
**9:00 am – 3:30 pm**

| | | |
|---|---|---|
| **Dr. Susan Lee**<br>*Director of Academic Affairs*<br>Mississippi Institutions of Higher Learning<br>3825 Ridgewood Road – Room 924<br>Jackson, MS 39211<br>Office: 601.432.6522<br>Cell: 662.207.1301<br>slee@mississippi.edu<br><br>***External Chair*** | **Dr. Erica Bissell**<br>*Director, Teacher Effectiveness*<br>South Carolina Department of Education<br>1429 Senate Street, Suite 603B<br>Columbia, SC 29201<br>Tel: 803-734-8046<br>Fax: 803-734-8388<br>ekbissel@ed.sc.gov<br>***SCDE*** | **Trena Houp**<br>*English*<br>South Carolina Commission on Higher Education<br>1122 Lady Street, Suite 300<br>Columbia, SCD 29201<br>803-737-4853<br>thoup@che.sc.gov<br><br>***CHE Staff*** |
| **Dr. Alice Moraes**<br>*Director of Science Programs*<br>School of Education and Graduate Programs<br>Converse College<br>Carmichael 205B<br>Spartanburg, SC 29302<br>864-596-9468<br>Alice.Moraes@converse.edu<br>***Independent Higher Education*** | **Lori Ann Smith**<br>*Science Coordinator*<br>NBCT<br>Sumter District<br>1345 Wilson Hall Rd<br>Sumter, SC 29151<br>803-469-6900 ext. 520<br>Lori.Smith@sumterschools.net<br><br>***Science – K-12*** | **Tessa Weinstein, Ph.D.**<br>*Assistant Professor of Mathematics*<br>Department of Mathematics and Statistics<br>Coastal Carolina University<br>Wall 124 E<br>P.O. Box 261954<br>Conway, SC 29528-6054<br>(843) 349-4111<br>tweinste@coastal.edu<br>***Public Higher Education*** |
| **Dr. Valerie Harrison**<br>*Interim Dean, School of Education*<br>Claflin University<br>131 Bowen Hall<br>Orangeburg, SC 29115<br>803-535-5225<br>vharrison@claflin.edu<br><br>***Independent Higher Education*** | **Dr. Bridget Coleman**<br>*Mathematics Education*<br>School of Education<br>USC-Aiken<br>471 University Parkway<br>Aiken, SC<br><br>BridgetC@usca.edu<br><br>***Public Higher Education*** | **Dr. Ken Vogler**<br>*Associate Professor Social Studies*<br>University of South Carolina<br>College of Education<br>Dept. of Instruction & Teacher Education<br>107B Wardlaw Building<br>Columbia, SC 29208<br>kvogler@gwm.sc.edu<br><br>***Public Higher Education*** |
| *Staff Support*<br><br>**Dr. Paula A. Gregg**<br>Academic Affairs & Licensing<br>SC Commission on Higher Education<br>1333 Main Street, Suite 200<br>Columbia, SC 29201<br>803-737-2246<br>pgregg@che.sc.gov<br>***CHE*** | | |

**Attachment 2**

**Improving Teacher Quality Higher Education**
**Proposals Submitted**
**FY 2012-13**

| Project Director Name | Grant | Institution | High Need LEA(s) | Funding Year | Funds Requested 2012-13 | Recommended for Funding | Funds Recommended 2012-13 |
|---|---|---|---|---|---|---|---|
| Calvin Williams/Nicole Bannister Sinwell | Improving Middle Grades Teacher Quality through the Clemson Mathematics Institute and Video Club | Clemson University | Abbeville, Greenwood 51 | Year 1 | $ 87,917.48 | YES | $ 88,000.00 |
| Nieves McNulty | South Carolina High Energy Mathematics Circle (SCHEMaTC) | Columbia College | Fairfield | Year 1 | $ 89,810.00 | YES | $ 90,000.00 |
| Stephen Thompson | Expanding Nature-Based Inquiry Opportunities in Elementary Science Education | USC-Columbia | Clarendon One, Richland 1 | Year 1 | $ 120,400.44 | YES | $ 120,500.00 |
| Patty Hambrick/Melinda Walker | Integrating Reading Skills in Inquiry-Base Science Instruction (IRIS) | Charleston Southern | Charleston | Year 1 | $ 88,708.00 | YES | $ 89,000.00 |
| Renarta Tompkins | "Corridor of Promise" Creating Reading Leaders | USC-Beaufort | Jasper | Year 1 | $ 89,686.00 | NO | None |
| | | | | **Total Funds Requested** | $476,521.92 | | |
| | | | | **Total Funds Recommended for Awards** | | | $ 387,500.00 |

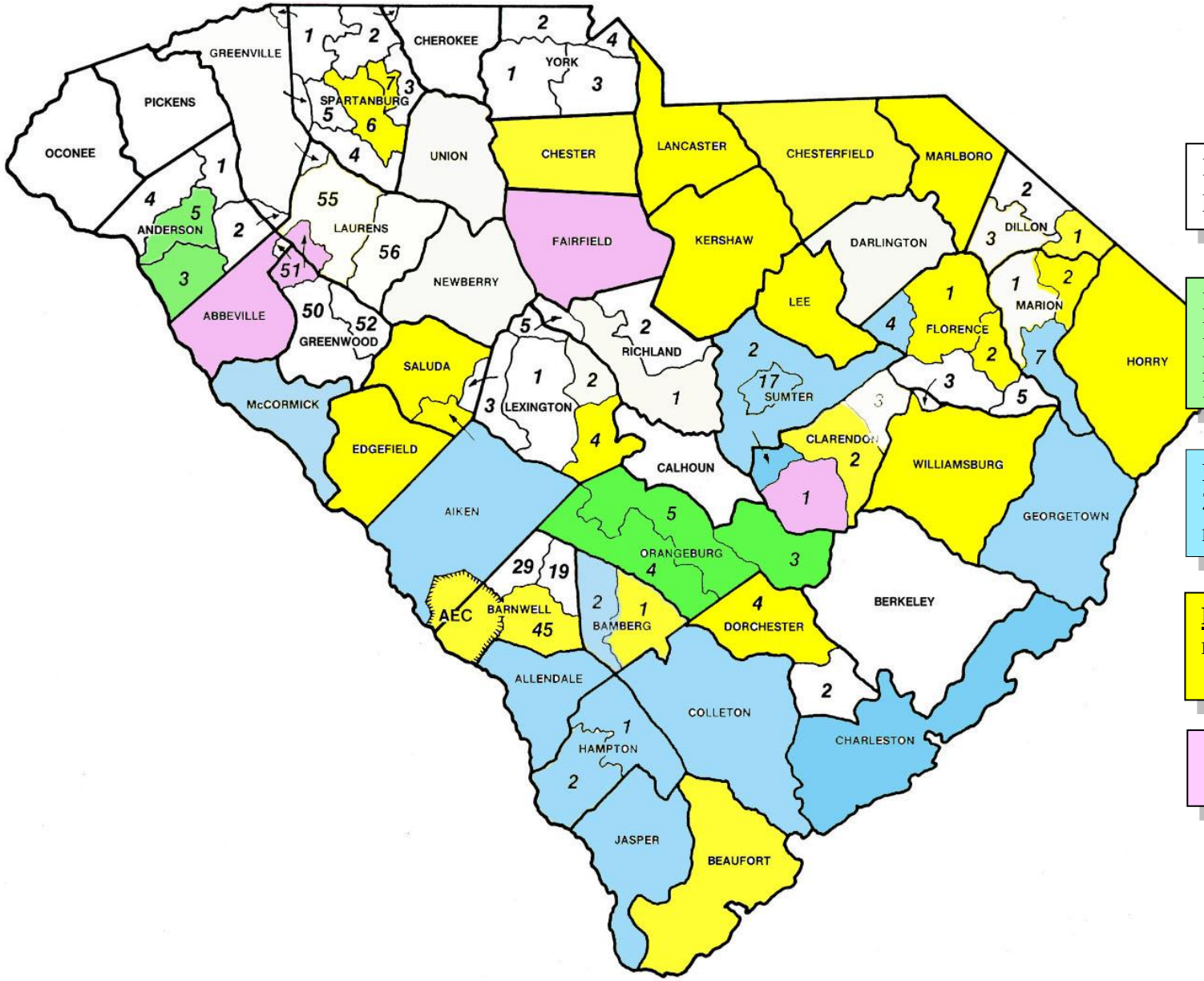
**Attachment 3**

**Improving Teacher Quality Higher Education**
**Continuing Projects**
**FY 2012-13**

| Project Director Name | Grant | Institution | High Need LEA(s) | Funding Year | Funds Requested 2012-13 | Recommended for Funding 2012-13 |
|---|---|---|---|---|---|---|
| Tony Johnson | *Developing Highly Qualified Science and Mathematics Teachers through Project-Based Learning* | The Citadel | Charleston, Colleton, Hampton1 | YR3 (of 4) | $ 76,000.00 | $ 80,000.00 |
| Marilyn Izzard | *Unveiling Mathematics Standards* | USC-Upstate | Sumter 2, Sumter 17 | YR3 (of 4) | $ 90,132.54 | $ 90,200.00 |
| Dr. Jeff Priest; Dr. Gwen Johnson | *PRIME TIME on Achievement: Projects for Rigorous Instruction in Mathematics Education with Technology Integration for Maximum Effect on Achievement* | USC-Aiken | Allendale, Aiken, Bamberg 2 | YR2 (of 4) | $ 89,353.62 | $ 89,400.00 |
| Michelle Cook | *Project RES: Reform-based Environmental Science* | Clemson University | Orangeburg 3, Orangeburg 5 | Year 4 (of 4) | $ 89,907.68 | $ 90,000.00 |
| | | | | **Total Continued Funds Requested** | $ 345,393.84 | |
| | | | | **Total Funds Recommended for Awards FY 2012-13** | | $ 349,600.00 |

**Attachment 4**

# Funded High Needs LEAs (Districts)
# 2012-13




LEAs NOT eligible for partnerships

LEAs currently funded, but NOT eligible for new partnerships based on new Federal Census Data

LEAs currently funded FY 2011-12 AND eligible for new partnerships

**Eligible** LEAs currently not receiving funding

New LEAs funded for FY 2011-13

**Attachment 5**

***Proposal # ITQ12-01: Improving Middle Grades Teacher Quality through the Clemson Mathematics Institute and Video Club***

Project Directors: Calvin Williams, Nicole Bannister Sinwell
Department of Mathematics
Clemson University

The overarching goal of the *Improving Middle Grades Teacher Quality through the Clemson Mathematics Institute and Video Club* project is to increase student mathematical knowledge and achievement in middle grades South Carolina classrooms. We aim to meet this goal by fostering innovative, integrated approaches to teaching and learning mathematics with middle grades teachers in Abbeville County and Greenwood 51 school districts. If space is available, we will also offer our programs to Greenwood 50, Anderson District #3, and Anderson District #5 teachers in an effort to reach more teachers in rural communities as well as expand the professional learning communities of participating teachers.

Given our partnering teachers' expressed needs for our work to help them make sense of the complex challenges created by a move to the Common Core State Standards, we have designed a summer institute and yearlong follow up activities to meet these needs. We have selected algebra as our anchoring content area for our year one activities since it is a significant academic gatekeeper, prerequisite for virtually all other mathematics, and has a strong presence in the current and future middle grades content standards and high stakes assessments. For similar reasons, we have selected geometry as the content anchoring our year two activities, though we are prepared to adjust this content based on teachers' emergent needs and interests.

Teachers participating in the summer institute will experience an intensive, five-day Clemson Mathematics Institute structured according to these three strands: (1) the continuation of learning and doing mathematics, (2) the analysis and refinement of classroom practice, and (3) building teacher confidence in their abilities to become resources to their colleagues and to the profession. Strand 1 focuses on learning new mathematics in a discourse-intensive, problem solving context modeled after the highly successful Park City Mathematics Institute teacher program. A regional Master Teacher who has co-authored and co-taught this content at PCMI will assist a Clemson mathematics faculty member in the development and teaching of this portion of CMI. We propose implementing the research-based *Lenses on Learning* program from Education Development Center for Strand 2, which we will launch during the summer institute and complete during the school year. This program brings together district stakeholders to make sense of these questions in context of their local classrooms: What does it mean to know algebra? What does high quality instruction look like? How can assessment support learning and instruction? How can professional development enable teachers to improve student achievement? How can school leaders advance their mathematics program toward success for all? How can we hold high expectations and provide strong support for all students? Strand 3 gives teachers time to work in small groups and develop classroom materials from our work together that can be shared publicly with others. This work will be included in our yearlong activities as well.

The work we complete during the academic year will extend and complement the work we launch in the summer. Strand 1 will be present in all of our activities, as the learning of new mathematics is the basis of our work. We will complete the Lenses on Learning work (Strand 2) using five professional development days throughout the school year, including time for working groups (Strand 3). We will also launch a video club, which is a monthly meeting of teachers

whereby we watch and discuss video clips from teachers' classrooms. The purpose of the video club is to work on mathematics together and make sense of student thinking about the mathematics, and allows teachers to view and reflect on their own teaching without the threat of administrative evaluation. This work allows teachers to connect their lesson plans with how students engage with the mathematics, and ultimately make sense of how their students are meeting the Standards. Our proposed program meets teachers' needs with a research-based, sustained approach to learning new content and classroom practices.

***Proposal # ITQ12-02: South Carolina High Energy Mathematics Circle (SCHEMaTC)***

Project Directors: Nieves McNulty
Department of Mathematics
Columbia College

Through a partnership among Columbia College's Mathematics program, the USC Mathematics Department, USC College of Education and Fairfield School District, we propose to establish, in the South Carolina Midlands, a mathematics teachers' circle- a networked community of middle school mathematics teachers, mathematics educators, and practicing mathematicians. The middle school teachers will be recruited from the main LEA partner Fairfield Middle School and also from other schools in the midlands. The mathematics educators will be drawn from the University of South Carolina, and the practicing mathematicians will be drawn from Columbia College and the University of South Carolina. This mathematics teachers' circle will be called the South Carolina High Energy Mathematics Circle **(SCHEMaTC).**

With the ultimate goal improving students' mathematics achievement, this project provides a continuing high quality professional development program focused on problem solving that aims to increase teachers' content knowledge and mathematical knowledge for teaching in the areas of number system, geometry, and data analysis and probability, to improve teachers' problem solving skills, to improve teachers' enthusiasm and confidence in their mathematical abilities, and to improve teachers' readiness to provide opportunities for their students to develop mathematical behaviors consistent with the Common Core State Standards for Mathematical Practice.

In the targeted school district, the latest PASS scores for mathematics indicate that 41.3% of students did not meet the standards. While this is markedly down from 53.8% the previous year the district indicated a goal to even lower this further and that this project could address this need. There is also a need for teachers to get ready for the implementation of the CCSS-SMP.

This project has two main components. The first one that launches the program is an immersion workshop held in the summer of2012. This week-long event will bring all the members of the circle together, away from home and other distractions, to begin establishing the personal relationships that are important for the success of the circle. There will be morning and afternoon sessions in which mathematicians will present problems leading to collaborative work for the whole circle. The second component is a series of monthly Saturday meetings built around this interactive mathematical problem solving session.

Evaluation of the project will be done by Dr. Diana White who has made a number of studies regarding mathematics teachers' circles and will include pre-post surveys, focus groups and individual interviews, videotaping lessons, observations, and the Learning Math for Teaching instrument that measures mathematical knowledge for teaching.

The first math teachers' circle was launched only six years ago and positive outcomes for middle school students can already be observed. The organizers of our mathematics teacher circle, two middle school mathematics teachers (from Richland I and Colleton County) and three college faculty members (one from Columbia College and two from the University of South Carolina) attended a week-long workshop on the nature of mathematics teachers circles and how they might be organized, held at the American Institute of Mathematics in Palo Alto in June 2011. We conceive SCHEMaTC as a continuing endeavor. We anticipate holding a second immersion workshop during the summer of 2013. Mathematics teachers' circles should be small enough to foster a strong sense of community. The Carolina Midlands is large enough to support several mathematics teachers' circles. It is our hope that in a few years the success of our circle will lead to the founding of more mathematics teachers' circles in the Midlands.

***Proposal # ITQ12-03: Expanding Nature-Based Inquiry Opportunities in Elementary Science Education***

Project Directors: Stephen Thompson
College of Education
USC-Columbia

University of South Carolina faculty members have developed a Nature-Based Inquiry professional development model which centers around the design and use of outdoor "classrooms" that take advantage of natural educational assets on school campuses (The term classroom represents any number of outdoor learning spaces such as work tables, benches, nature trails, etc.). We help design the outdoor classrooms, support their construction and use as educational resources, and facilitate the development of the community partnerships needed to ensure that the outdoor classrooms would be maintained. In addition, we provide participating teachers with standards-based science content instruction, foster the development of professional learning communities, and help them integrate science instruction into their curricula.

The proposed Expanding Nature-Based Inquiry Opportunities in Elementary Science Education (NBI) program will be a partnership among Clarendon County One School District, Richland County School District One, the Richland Soil and Water Conservation District, and the University of South Carolina. The primary research objective of the NBI is to determine whether the use of outdoor classrooms improves science education (teaching and learning) as well as related student behaviors and achievement.

We plan two levels of intervention. Both levels of intervention include teacher participation in nature-based professional development during the summer and academic year, as well as on-site support for the implementation of recently learned instructional strategies during the school year. For the teachers who already use an outdoor classroom to support instruction, we will focus on enhancing their use of outdoor learning experiences during inquiry-based lessons. For the elementary teachers who currently offer no outdoor instruction, we will focus on creating school-based structures and capacities that promote the use of outdoor learning experiences during inquiry-based lessons.

Summer Workshops will be provided to both groups of teachers to augment their content and inquiry-based pedagogical knowledge, increase their knowledge of concepts that promote healthy lifestyle choices, and also build a sense of community that promotes collaboration across partner institutions. Both groups of teachers will

participate as learners in inquiry-based lessons that are designed to enhance their related pedagogical abilities. Both teacher groups will also take part in sessions designed to enhance content knowledge related to grade level science standards. Additionally, most sessions will be held in outdoor spaces on the participating elementary school campuses.

The professional development experience will continue with the implementation of the lessons and strategies from the Summer Workshops within participating teachers' classrooms during the academic year. To support participating teachers' implementation efforts, the NBI program will provide Peer Mentors for each school. Peer Mentors are experienced elementary science educators with a history of successful science teaching experiences in high poverty P-6 school settings. The Peer Mentors will visit NBI schools on a weekly basis to partner with the participating teachers to develop outdoor lessons and facilitate the design of the outdoor classrooms and garden spaces.

***Proposal # ITQ12-04: Integrating Reading Skills in Inquiry-Based Science Instruction (IRIS)***

Project Directors: Patty Hambrick, Melinda Walker
School of Education
Charleston Southern

Integrating Reading in Inquiry-based Science (IRIS) is a collaborative partnership between Charleston Southern University (CSU) and Charleston County Schools Innovation Zone Learning Community (IZLC) comprised of the **1410west performing schools** in the county. Dr. James Winbush, Associate Superintendent of the IZLC, is charged with leading the schools in meeting or exceeding district standards by 2014-2015. Dr. Patty Hambrick and Dr. Pat Bower (retired) of the School of Education at CSU met with Dr. Winbush, and subsequently with four CCSD principals and district personnel to determine instructional areas in need of greatest attention. Through conversations and review of data, it was clear that improvement was essential in elementary school science where scores in all **six** selected elementary schools fell **well below** the state and district averages and the poverty index was **above 96%** in each school. The selected schools, which form a feeder pattern into the same middle school, also fall short in the area of reading comprehension and thus, the project, will harness the power of the integration of reading skills in inquiry-based science instruction.

The purpose of the IRIS project is to provide sustained professional development aimed at increasing achievement in science while at the same time improving reading comprehension skills at the elementary school level. Fifth grade teachers were selected as the target population because studies indicate that lower performance in science (and reading) in elementary grades has a negative cumulative effect by the time students enter middle school. Teaching reading as a natural, integral part of school science has shown powerful effects on student learning, especially for lower achieving students (Schneider, Greenleaf and Herman 2009; Barton and Krajcik 2009; Guthrie 2005: National Science Foundation 2009 and National Center for Research on Evaluation, Standards and Student Testing 2009). Project emphasis on reading and science in grades 4-5 will build the conceptual framework for standards that follow in grades 6-8. The focus will be on fifth grade since the next year these students are in middle school.

The IRIS project will be the professional development emphasis for all fifth grade teachers (27 projected) in six elementary schools (Bums, Chicora, Mary Ford, Sanders-Clyde, Pinehurst and North Charleston) for the grant period. A group of three to five highly qualified teachers will be

selected from the participants to team up with CSU faculty to assist in the training and coaching of their peers continuing after the grant, thus providing for sustainability at the district level upon completion of the project. The Innovation Zone is committed to continue training their teachers with the effective grant strategies even after the grant period. Improving teacher knowledge of content and pedagogy necessary for making science a focused and challenging part of the curriculum is the major thrust with emphasis on infusing reading comprehension standards as an integral part of inquiry-based science instruction. A Project Planning and Implementation Team representing CSU Arts and Sciences, Education Faculty and CCSD Innovation Zone personnel is responsible for developing, implementing and assessing the grant, along with an external evaluator. Through hands-on onsite monthly workshops, a summer institute, in -person and Course Management System (CMS) delivery, and classroom visitation, teachers will receive intensive professional development in: (I) content necessary for teaching each of the South Carolina science standards; (2) effective inquiry-based science teaching methodology using technology as one of several tools, and (3) specific reading comprehension strategies to use when teaching each of the standards. Resource kits containing background content information, lesson plans and activities for inquiry-based teaching, and strategies for teaching specific reading comprehension skills for each standard will be developed by CSU education and science faculty and used to prepare, instruct, coach, guide and assess the practice of teachers in the selected schools.

The evaluation plan will include assessing: (I) increased achievement in science as measured by the PASS test; (2) increased achievement in reading comprehension as measured by the PASS test; (3) teacher content knowledge in science standards as measured by assessments of content knowledge following instruction and (4) teacher methodology as measured through classroom observations.